

UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY

FOREST INSECT INVESTIGATIONS

PETE CREEK FOREST INSECT CONTROL PROJECT

KOOTENAI NATIONAL FOREST

Recommendations in Connection
with the 1927 Operation

Forest Insect Field Station
Coeur d'Alene, Idaho
November 27, 1926.

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KOOTENAI NATIONAL FOREST

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INTRODUCTION

The purpose of this report is to make to the District Forester such recommendations as are necessary for the continuation of the Pete Creek Forest Insect Control Project, Kootenai National Forest, during the season of 1927. In addition to these recommendations, which include such points as the allotment of funds, plan of operation and control, etc., the status of the 1926 infestation is given. The attention of the reader is directed to the splendid report covering the 1926 control work submitted by Mr. Henrichs who was in charge of the project. A copy of Mr. Henrich's report is attached.

Reference is made to the report submitted by the writer under date of November 3rd, 1925, which gives the preliminary history of this project. The problem of the project is the checking of an outbreak of the mountain pine beetle in the white pine stands of the Pete Creek drainage of the Yaak River. A few miles north of this project there is a severe epidemic of the mountain pine beetle in the lodgepole pine stands of the West Fork of the Yaak River. Though there is no physical

connection between these two infestations the relationship is somewhat of an issue.

METHODS OF SURVEY

On October 5th and 6th an extensive survey was made of the project area by the writer. Mr. Henrichs accompanied and assisted the writer during the examination. The purpose of this survey was to secure the necessary information upon which to base an estimate of the 1926 infestation. Sample strips, one and one-half chains wide were run through the area, on which the 1926 attacked trees were counted. These strips were located as fairly as possible in order that an average of the existing conditions would be secured.

STATUS OF THE INFESTATION

Amount of sample strip in area	6.2 miles or 74 acres
Number of 1926 attacked trees counted	27
Number of 1926 attacked trees per acre of strip	.36
Percent of total project area covered by survey	10.3
Acreage of project area	720
Estimated number of 1926 attacked trees in area	259
Estimated amount of funds required for 1927 control	
259 trees at \$3.73	\$965.00
Number of trees treated during 1926 control operation	693
Reduction in infestation following control	434 trees or 62%

Remarks: It is rather difficult to account for the amount of infestation which occurred within the project area last summer. On the 74 acres of sample strip which were run, there were only three 1925 attacked trees missed during the 1926 control work. This figure gives .046 trees per acre of strip or a total of 33 for the entire area. Many of the trees within this area were injured by the severe winter of 1924 - 1925. Inasmuch as the trees may have been susceptible to attack it is possible that the emergence from these few trees was sufficient to account for the 1926 infestation. Though as stated this is possible it would mean an increase of nearly 800 percent which seems a trifle improbable.

Regardless of the source of the 1926 attack a reduction amounting to 62% of the 1925 infestation followed the first year's control work. As there would undoubtedly have been a marked increase from the 1925 to the 1926 infestation it is evident that a much larger reduction than 62% was secured. However, this figure is intangible and cannot be given. If there is no relationship between this project and the infestation in the lodgepole pine stands on the West Fork of the Yaak River, a still greater reduction will be secured by control measures instituted in 1927. On the other hand if the beetles are flying into this area (there is no physical connection existing between these two infestations at this time), with a corresponding change of hosts, then the prospects of successful control for this project are very small. It is believed that in another year more definite data relating to the

relationship of these infestations can be secured.

METHODS AND PLAN OF CONTROL

The method of control practiced during the 1926 control operation should be followed in the continuation of this project. The trees should be felled and the bark peeled from the infested length of the bole while the insects are in the larvae or pupae stages. All infested trees within the project area should be located and treated.

Though there is a very severe infestation within the lodgepole pine stands of the West Fork drainage of the Yaak River, which is but a few miles north of the Pete Creek project, control work is not recommended for this area. This position is taken due to the large sum of money which would be required for successful control, the merchantability of the stand and the stumpage values which would not warrant the necessary expenditure.

Control measures should be continued in the Pete Creek project for at least one more year or until the relationship which exists between the two infestations can be more definitely settled. This project also offers an opportunity to secure valuable entomological data relative to the host selection of the mountain pine beetle as existing between lodgepole pine and white pine.

PLAN OF OPERATION

It seems decidedly unnecessary to suggest any change in the

plan of operation as instituted by Mr. Henrichs last season. This project was carried on in an effective and efficient manner. The actual control work was very well performed and the cost of the operation was indeed very satisfactory. The only suggestion which can be offered is in the spotting and marking of infested trees. It is believed that if the trees were marked with a 4 X 8 white cloth tag, cut from sign painter's cloth, on which the number of the tree is placed, they could be relocated a great deal easier. As the trees are treated these tags are turned over to the officer in charge of the project by the crew foreman. Furthermore, the compassman should pace his distances and map the infested trees on Forest Service form 878. These maps, though sometimes rough and not entirely accurate, are of great assistance to the crew foreman in locating the trees marked for treatment as they show the location of the groups as they exist in relationship to each other. This will eliminate long tiresome hikes on the part of the crew foreman in locating his trees.

RECOMMENDATIONS

In view of the conditions as stated within this report the following recommendations are made;

- I. That this project be continued during the season of 1927.
 - A. That as near as possible a 100% clean up of all the infested trees within the project area be made.
 - B. Following the 1926 attack more definite information should

available relative to the relationship which exists between the infestation within this project and the mountain pine beetle epidemic in the lodgepole pine stands of the Yaak River a few miles distant.

1. If it is proven that no relationship exists, then maintenance control work should be continued within this area in order to protect the expenditures already made.
2. If it is found that a relationship does exist then the project should be dropped unless the infestation on the Yaak River is controlled by timber sales as planned.

II. That \$1000 be allotted for the continuation of this project during the year 1927.

III. That if possible Mr. Henrichs be detailed to again take charge of this project. If this detail is made then it is assured that the project will be conducted in an efficient manner and there will be no necessity of training a project manager.

A. If a new man is to take charge of the project it will be necessary for the Forest Entomologist to spend a few days with him on the project, before the starting of actual control work, for the purpose of instructing him in the work.

B. That at a convenient time during the operation, all of the Forest Rangers on the Kootenai National Forest be assembled ~~at this camp~~ for a period of two or three days

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B. That at a convenient time during the operation, all of the Forest Rangers on the Kootenai National Forest be assembled ~~at this camp~~ for a period of two or three days

for the purpose of receiving experience in forest insect control work.

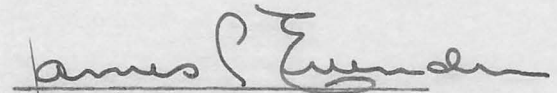
IV. That if possible the timber on the West Fork of the Yaak River be sold in the hopes of checking the epidemic of the mountain pine beetle which exists within the lodgepole pine stands of that region. This is a serious epidemic which will destroy all of the lodgepole pine in that area and will undoubtedly spread to adjacent regions unless checked.

CONCLUSIONS

There are a few minor details of this project relative to the method of making the survey, the marking of infested trees, keeping of necessary records, etc., which are not included within the substance of this report. The writer plans to submit to the officer detailed in charge of this project a brief memorandum covering these and other details of the Pete Creek project. In concluding this report the writer wishes to acknowledge the splendid work conducted by Mr. Henrichs in charge of the project last season. With no previous experience in forest insect control and with but a few hours instruction Mr. Henrichs carried on his work in a very effective and efficient manner. There were but very few trees missed by the spotters and the control work was very well performed. Furthermore, the cost per tree for treatment was very satisfactory and gratifying. In addition, the peeling spud which was designed by Mr. Henrichs has filled a long needed want within this district. This spud is admirably suited for

the peeling of infested white pine and will aid materially in making
our control work in white pine more efficient.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "James C. Evenden". The signature is fluid and cursive, with a large loop at the end.

James C. Evenden
Associate Entomologist.